Puget Sound Gateway Program SR 509

Steering Committee March 24, 2016

CRAIG J. STONE, PE GATEWAY PROGRAM ADMINISTRATOR OMAR JEPPERSON, PE SR 509 PROJECT MANAGER



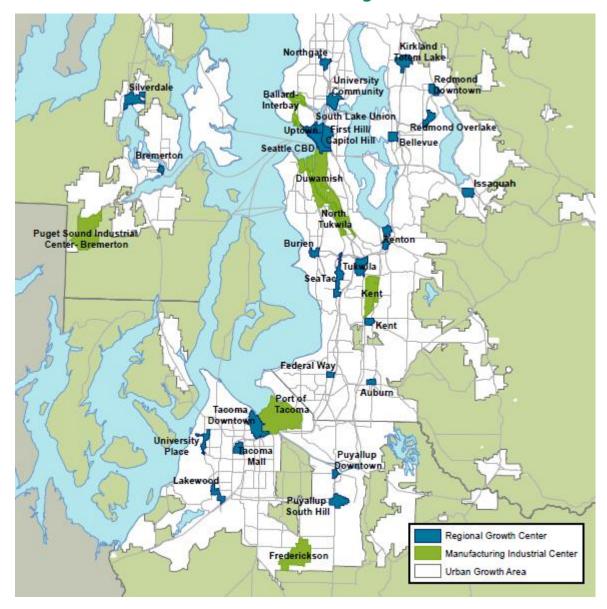
Agenda

- Welcome & Introductions
- Travel Demand Forecasting Model
- Draft Performance Metrics and Targets
- Next Steps

SR 509 Steering Committee 2016 Work Plan



Context for the Project



- PSRC 2040
- Comprehensive Plans
- Urban and Manufacturing Industrial Centers
- Input from stakeholders



Context for Project

- PSRC 2040
- Comprehensive Plans
- Urban and Manufacturing Industrial Centers
- Input from stakeholders
- Projected travel patterns

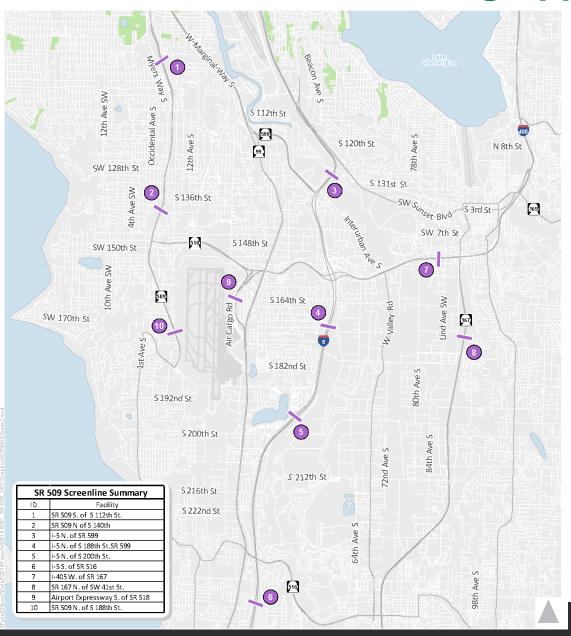
Previous Traffic Forecasting

- High levels of peak period demand
- Used state-of-the-art forecasting that was available at the time (1999)
 - Daily demand factored to peak hour
 - Upstream and downstream physical constraints not fully captured

Current Traffic Forecasting

- Still showing growth
- State-of-the-art forecasting
 - Time of day demands
 - More accurate trip generation detail
- Greater network resolution
- Capacity constraints reflected
- Tolling is accounted for
 - Legislative intent to toll

SR 509 Traffic Forecasting Approach



Baseline Calibration

- OFM census track household estimates
- Refined network
- AM and PM peak hour vehicle demands match 2015 counts

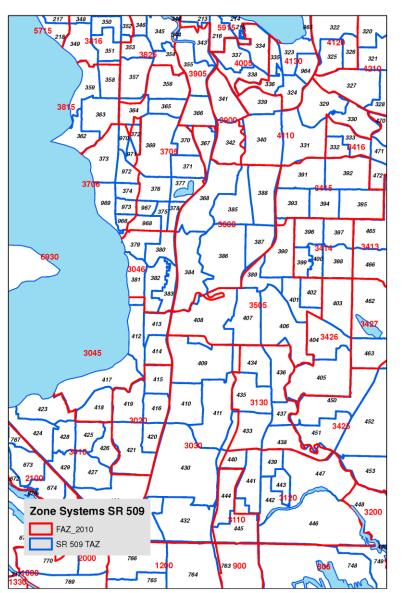
Model Input

- Refined network
- Assumes tolling
 - Tolled similarly to SR 520

SR 509 Traffic Forecasting Approach

Model Input (cont.)

- 2025 / 2045
- PSRC Land Use Vision (LUV) forecasts
- Area specific forecasts
 - Comprehensive Plans
 - Land use distributions



SR 509 Traffic Forecasting Approach

Assumed Transportation Projects

- Local agency plans
- WSDOT regional projects
- Sound Transit

Trucks

- Limited truck data available
 - PSRC truck module
 - Freight Analysis Framework
 - Existing truck counts
 - Seattle marine terminal truck info

SR 509 Traffic Forecasting Application

Data extracted from the model

- By facility and area
 - Future year demands
 - Travel time
 - Delay

SR 509 Traffic Forecasting Application

Discussion

Review of Project Needs

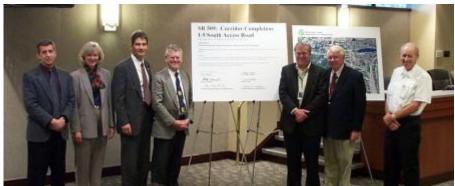
2003 EIS Purpose and Need:

Purpose:

 Improve regional highway connections with an extension of SR 509 to serve current and future transportation needs in southwest King County and to enhance southern access to Sea-Tac International Airport.

Need:

- Create system linkages, accommodate travel demand and capacity needs, and improve intermodal relationships.
- Close the gap between existing SR 509 and I-5
- Ease capacity and travel demands on local streets and major transportation routes, like I-5



Review of Project Needs

2003 EIS Objectives:

- Support local and regional comprehensive planning and development
- Maintain efficiency of existing roadways in the immediate vicinity of the airport terminals and parking garage
- Relieve local congestion
- Serve harbor freight operations
- Improve regional mobility and safety
- Be compatible with connections to High Capacity Transit
- Develop broad public and political support for the preferred alternative
- Design project in an environmentally responsible manner
- Provide cost-effective alternatives and solutions





Practical Solutions Approach

Design Manual

NOITAU CH.

Ch. 1101

Ch. 1102

Ch. 1103

Ch. 1104

Ch. 1105

Ch. 1106

Understand the **Project Need** including the contributing factors

Consider the Context

Design Controls

Formulate & Evaluate

Alternatives
that meet the need

Document selection of Design Elements

Document selection of **Dimensions**

Section 1

Section 2

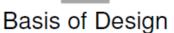
Section 3

We are here

Section 4

Section 5

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Essential Needs

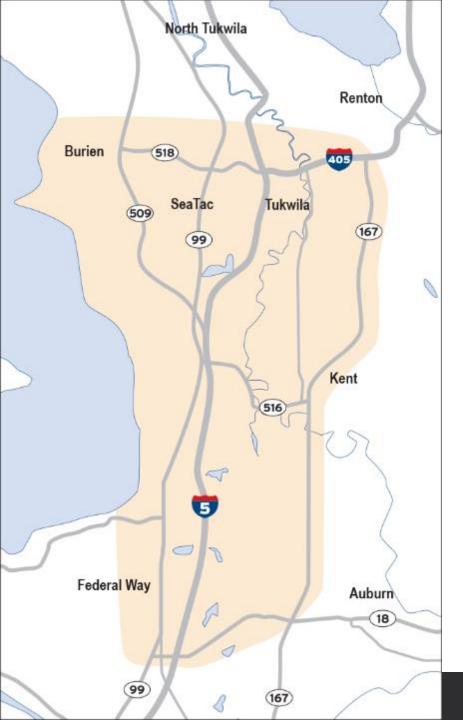
Es	sen	ntial Needs Meeting 1	Updated Essential Needs						
1	•	Complete freeway network (close the gap)	 Reduce travel time between Urban Centers and Manufacturing Industrial Centers in South King County 						
2	•	Improve freight travel time and reliability	 Improve travel time reliability between Urban Centers and Manufacturing Industrial Centers in South King County 						
3	•	Improve southern connection to Sea-Tac Airport for people and goods	 Reduce travel time from South Sound to Sea-Tac Airport Improve travel time reliability from South Sound to Sea-Tac Airport 						
4	•	Ease congestion between Seattle and Tacoma by utilizing unused capacity on SR 509	 Reduce hours of delay in the project subarea network Maintain or improve I-5 operations 						
5	•	Support Regional Growth Centers for Burien, SeaTac, Kent and Federal Way, and Industrial Centers for Duwamish and Kent	 Improve economic vitality Support local and regional comprehensive land use planning and development 						
6			Reduce number of serious injury and fatal crashes						
7	•	Improve transit operations and connections to transit	Will be addressed by mode in the performance metrics						

Contextual Needs

Coi	ntextual Needs Meeting 1	Updated Contextual Needs							
1	 Support local and regional comprehensive planning and economic development 	Moved to Essential Needs							
2	 Improve mobility and safety between the state's largest cities and counties Improve mobility and safety in the I-5 corridor north of SR 516 Improve mobility and safety in the I-5 corridor south of SR 516 	Moved to Essential Needs							
3	 Improve east-west connectivity across the Kent Valley MIC 	Moved to Essential Needs (part of urban centers concept)							
4		 Reduce the number of serious injury and fatal crashes on local arterials 							
5	 Decrease demand on local arterials, decreasing delay and increasing safety 	Moved to Essential Needs (part of reduce hours of delay in the subarea network)							
6		 Support multimodal choices to Sea-Tac Airport Improve intermodal relationships 							
7	Provide pedestrian connectivityProvide bicycle connectivity	 Reduce pedestrian vehicle exposure Continuity and consistency of pedestrian and bicycle facilities 							
8		Maintains forward compatibility with EIS							
9		Reduce area of impact to sensitive areas							
10		Compatibility with Sound Transit Federal Way Link Extension							

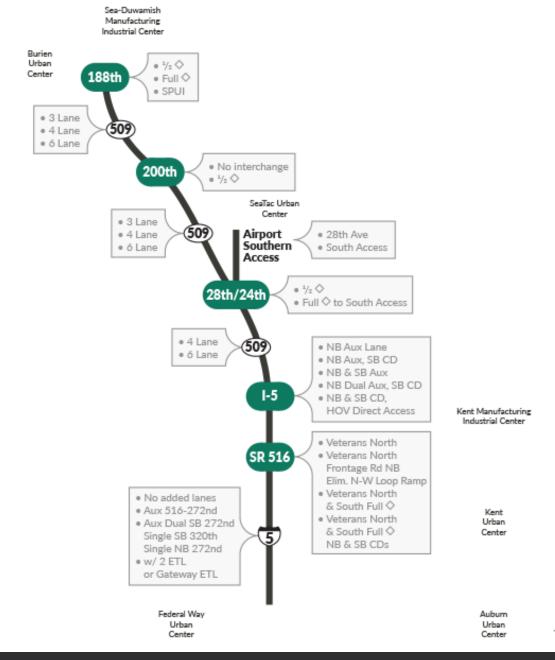
Scenario Comparison Table

Scenario Comparison Table - SR 509 Completion Project													
v ∨	Essential Performance Metrics								Cost				
Performance Category	Mobility				Economic Vitality Safety	Safety	Mobility Er			Env't Other			
wo ¢	Freight - Transport Freight - Delivertes Auto Transt - Bas	Freight - Transport Freight - Delivertes Auto Transit - Bus	Freight - Delivertes Auto Transt - Bus Transt - Fixed Guideway	Freight - Delivertes Auto Transt - Bus Transt - Fixed Guideway	Freight - Transport Freight - Delivertes Auto Transt - Bas	Freight - Transport Freight - Delivertes Auto Transt - Bus	Freight - Transport Freight - Deliveres Auto	Freight - Delivertes Auto	Tarrak - Eus	Ped	Ped Bike		
Performance METRIC	Travel Time Reduce travel time between Urban Centers Manufasturing industrial Centers in South King County	Tavel Time Reliability Improve Time Reliability Improve Time Iffine wilebility between Improve Tavel Manufacturing industrial Centers in South King County	Tavel Time Reduce travel time to and from SeaTac Airport to South Sound	Tavel Time Reliability improve travel time reliability from South Sound to SeaT ac Aliport	Delay Reduce hours of delay in project subarea network	1-5 Performance Maintain or improve 1-5 Operations with 1- 5/8R 509 connection	Economic Benefit Improve economic stally Local and Regional Comprehensive Plan Support local and regional comprehensive land use planning and development Safety Safety 6 Ser Sooj 8 SR 809	Safety M of Serious injury and fatal creshes on local arterials	Sup port multimodal choices to SeaTac Airport Improve intermodal relationship	Number and location of Crossings Reduce Pedestrian vahide exposure	Continuity and Consistency of Pedestrian and Bicycle facilities improve Continuity and Consistency of Pedestrian and Bicycle facilities	Sendine Area Impact Reduce area of impact to sensitive areas Forward Compatibility Right of Way Impact Regular Right of Way Impact Sound Transis PVLE Project Compatibility Compatibility Mile ST PALE	
No Build													
Scenario 1 - Closing the Gap													
Scenario 2 - Moderate Connectivity													
Scenario 3 - Gateway													
Scenario 4 - Full Connectivity													
Scenario 5 - FEIS													

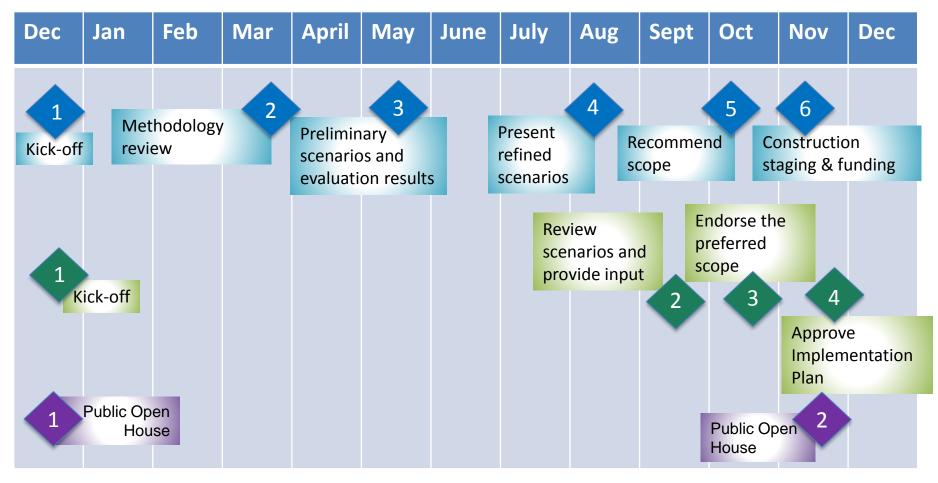


Proposed Project Subarea

Developing Scenarios



Project Schedule (SR 509)





Steering Committee Meeting



Executive Committee Meeting



Open House

More information:

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